

Natural Sciences 102 -- Spring 2004

Homework #3, April 13, 2004

Due in class April 20, 2004

1. The trial of Galileo: Read about the trial of Galileo. In addition to the material in class and the material in *Blind Watchers of the Sky*, find some other source material. A LOT has been written about the trial. Decide whether you want to be a publicity hungry prosecutor or a sleazy defense attorney in the case of Galileo. Make a choice and write a (no more than) one-page summary of your defense strategy or your prosecution strategy. Please give references to your source material.
 2. Read the excerpt from Galileo's *Dialog* on the class website. In no more than one page
 - a) Comment on the evenhandedness of the presentation. Give your reasons whether you think it was evenhanded or not.
 - b) What are the important observations to decide the arrangement of the solar system? Why are they important?
 - c) Did Salviati convince you? Why or why not?
 3. As the American philosopher Will Rogers said, the problem "is not what we don't know, it's what we know that ain't so." A historical example is the unquestioned belief in uniform, circular motion before Kepler. Almost as important as Kepler's discovery of his laws of planetary motion was his realization that the motions were **NOT** uniform and circular. For real progress to be made in science it is often necessary to realize that something that had been held without question is, in fact, wrong. Perhaps this is true outside of science as well.
 - a) Think of other historical examples where progress required overturning something that had been held as unquestioned truth. The example need not be from the history of science.
 - b) Perhaps our present-day core beliefs inside and outside of science are correct, or perhaps 200 years from now people will look back and wonder how we were ever so naïve as to believe something we now do not question. Think of some core belief most of us have that you think 200 years from now people will realize is hogwash.
- This week's laboratory will be the second week of Moons of Jupiter.
 - Don't forget the reading assignment, Kolb, Chapters 1-5. There will be a lot of reading next month, so you may want to read ahead.
 - If you have any recommendations for celestially inspired music, please send them to me at rocky@rigolletto.uchicago.edu.
 - The syllabus is a changing evolving document. Check the website.
 - Exam next Thursday, January 22. You are responsible for *Blind Watchers of the Sky* (Chapters 1-5) and the material discussed in class. You may want to review the diagrams presented in class by visiting <http://home.fnal.gov/~rocky/natsci102/>.